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To make up this deficiency in graminaceae, the Tuareg have recourse to products of gathering.

After a rain the captives and the Imrad women gather the seeds of certain plants which grow in the Ahaggar valleys. They are the afasso (Panicum turgidum F.) and the oulloul (Aristida pungens D.). But the size of the yield varies with the abundance of rain, and one may say that most of the time it is quite /233/ uncertain. This is not the case in the Sudan, where the Iklan gather whole bags of wild seeds, particularly cram-cram (Cenchrus echinatus), every year.

Fig. 31. Little leather flask used as a butter container.

To be sure, there are a few wild berries in the Ahaggar, such as those from the jujube tree (Zizyphus lotus D.) and the téborak (Balanites aegyptiaca). In case of famine the Tuareg fall back on other seeds, such as those of the colocynth, the Acacia tortillis, etc. However, all these plants play only a secondary role in the Tuareg diet.

The Tuareg have at their disposal milk from their camels, goats, and ewes. They drink it either whole or diluted with water, either fresh or sour.

The luxury of drinking whole milk is reserved for young mothers and children. Adults generally drink fresh milk morning and

234 to extract all the water, and then dry them on /235/ small screens placed in the branches of trees. It goes without saying that cheese making is very rare in the Ahaggar and that the Tuareg make it [238] particularly when they are nomadizing in the Sudan. Every year the Ihaggaren bring back large supplies of cheese from their stay in the Sudanese zone; these cheeses, dry as a bone, are either made by the Ihaggaren or bought from the southern tribes. They make 252 an important contribution to the Tuareg diet. These dry cheeses 262 are ground in a mortar and reduced to small fragments so that they have the consistency of flour. Then they are mixed with food, either in béchena gruel or in a drink of béchena flour and dates.

262 It might be supposed that meat plays a very large role in the Tuareg diet. But let us recall one of our old French proverbs which says that the shoemaker is always the worst shod. We could apply this adage to herders, who perhaps eat less meat than anyone else. A herder has animals for the use of their products, but he very seldom eats them, for each butchering is a loss of capital.

[233] Indeed, the Tuareg kill their animals only under very unusual circumstances, especially at the time of religious and family festivals. These killings recall somewhat the religious meaning of sacrifices. This does not mean that they do not like meat, for when they raid a rival camp, they hasten to make drastic inroads on the smaller livestock and eat until they are about to burst.

224 Hunting furnishes them a little additional meat. Each year 262 they kill a certain number of gazelles and wild sheep, eating part [251] of the meat fresh and drying the rest to keep it on hand.

They capture star lizards (Uromastix acanthinurus), jerboas, 222 gondi (Ctenodactylus sp.), sometimes even jackals and hares. We 262 can add to their meat diet grasshoppers (Shistocerca gregaria), [324] which they grill in the embers and then dry in order to pulverize [252] them. All Saharian nomads are very fond of grasshoppers, and since remotest antiquity some North African tribes are supposed to

222 have made them the base of their diet; for this reason they were
262 nicknamed acridophages. The Nasamonians of Herodotus prepared them in the same way the Tuareg do, and the /236/ similar diets of the two peoples is perhaps not pure coincidence.

There are a few fish ponds in the Ahaggar, but the Imochar
226 and the Imrad do not eat the flesh of these animals; only the
262 Issekkemaren catch barbels and sometimes catfish, or rather they gather them up in the wadis after floods, for they do not know how to fish, properly speaking.

The sedentary peoples raise chickens, but the Tuareg do not
262 eat them either, since they consider the meat impure. The same interdict is extended to eggs. The only bird which is an exception is the ostrich. There are no longer any ostriches in the Sahara, but
[223] when the Ihaggaren go to the Sudan they capture them if they have the chance; in addition, they eat ostrich eggs cooked in the ashes.

Times of scarcity were sometimes experienced. They are rare
262 now that caravans can circulate freely, but they were much more
731 frequent when the state of war continued for a long time. The
224 Tuareg fell back on wild plants which do not generally enter into their diet: the young growths of tahlé (Typha elephantina), the
[824] leaves of the tanekfit (Eruca aurea) and the aramas (Atriplex halimus), the underground stems of the danoun (Cistanche lutea) which resembles asparagus, and many other plants of very dubious food value, which they ate to assuage their hunger. The state of famine can
[252] become so pronounced that they sometimes gather up old bones, grind them up, reduce them to flour, and make gruels of them. It
[579] goes without saying that it is during these periods that pillaging is at its height. People steal from camp to camp, from tribe to tribe, and everyone forgets his brother and his friend, thinking of only one thing -- survival by any means.

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The nobles eat better, at least those who are well-to-do. In the Ahaggar especially they own cultivated land in the "ar'erems" (villages), where they grow wheat, "ired," barley, "timzin," and bechna, "inelli"; but usually they sell their 423 438

[137]

Dautheville

Trees Called "Ahatés" (Acacia Albida) at the Tillemas of the Tessht Wadí (Koudia).

wheat and barley to the natives of the Tidikelt and are content with bechna, of which they are very fond. They claim that bechna is less heating to the stomach than wheat or barley. [824]

The rich allow themselves the luxury of drinking tea, but tea and sugar are very expensive, and they do not misuse them. On the other hand, they do not hesitate to beg for them shamelessly. 272 556 263

When the year is bad anything seems good to the poor to assure their subsistence. In such years one sees them eating /30/ "berdi," or "taheli," (Typha angustifolia, Typhaceae); ground carob seeds of "talhas," or gum trees, which they call "tahaha" ⵜⴰⵃⴰⵀⴰ; "tanékfaït (Diplotaxis duveyrierana, Cruciferae); fruit of the "teborak" (Balanites aegyptica), which they steep to take out the bitterness; and even leaves of the "aremmas" (Atriplex halimus, Salsolaceae), which they boil. 222 262 735 252

In short, nature keeps food resources for them which prevents even the poorest from dying of hunger.

5: Nicolaisen E-4, 5 (1951-1955) 1959
MS25 Tuareg MS25
Ahaggar
Air

262 [222] Even when grazing is good stock-breeding products are less important for food in Ahaggar than in Air as is illustrated in fig. 3 depicting the relative importance of milk food and vegetable food. A small part of the vegetable food is provided by collecting seeds of grasses and herbs, while roots, stems, and berries of wild plants are less significant. The bulk of Tuareg plant food consists of millet, barley, wheat, and dates. In Ahaggar many Tuareg have gardens with wheat and barley cultivated for them by black-skinned agriculturists generally known by the Arab word *Haratin* (*Izzegaren* to the Tuareg). But most Ahaggar Tuareg acquire the bulk of their plant food from caravan trading with the oases of Tidikelt (dates) and with Sudanese villages as far south as Zinder (millet). Even in years of drought they can obtain millet from the Sudan in exchange for rock-salt broken at Amadror north-east of Ahaggar. In Air caravan trading with salt seems less necessary to Tuareg subsistence, although there are also in this country Tuareg who trade with salt from Amadror or Bilma. Most pastoral households however have a fairly regular surplus of livestock, butter, and cheese which can provide for the necessary amount of millet bought in Agadez or south of the massif in Damergou. There are also in Air a great many negroid agriculturists from whom pastoral Tuareg can buy vegetable products. But millet, which forms the prominent part of Tuareg plant food, is grown to a very slight extent by the agriculturists of Air. Dates are important in particular to the Ahaggar Tuareg who acquire large quantities from the oases of Tidikelt. There are also a few Ahaggar clans the members of which own half-wild palms with dates of an inferior quality, as there are Tuareg who have a few palms growing in their garden plots. In Air dates are not so important for food but even there pastoral Tuareg may have some palms. Among the Tuareg of Tassili-n-Ajjer it is very common for pastoralists to sow wheat and barley in the river valleys when these have been heavily flooded (Nicolaisen 1954, p. 83, 88), and this primitive agricultural method was apparently known also to the Ahaggar Tuareg in the past (Duveyrier 1864, p. 372). More recently many pastoral Tuareg of Ahaggar and Air have taken up agriculture by means of irrigation. There seems to be a tendency towards semi-nomadism among the Tuareg who are very dependent on vegetable food derived from agriculture.

[241] [563] 438 262 [234] [563] 241 262 [438] [312] [221]

The Negroes Of The Sahara.

136 In the above section on Tuareg ecology it is stated that Air climatically and botanically is closely linked with the Sudan. This is true also zoologically as the Air fauna contains a great many species of birds and mammals characteristic of tropical Africa. The bird life of Air seems very akin to that of the Sudanese savannah, and, for instance, guinea fowls are extremely common even in valleys of the northernmost parts of the massif. As examples of tropical mammal life in Air we may here mention that the wart-hog lives in Central Air, and that oryx antelopes

[TEXT CONTINUES ON p. 76]

5: Nicolaisen E-4, 5 (1951-1955) 1959
MS25 Tuareg MS25
Ahaggar

It is stated in literature that clan territories are grazing grounds reserved exclusively for clan members. Lhote says that nobody has the right to graze flocks and herds in the territories of foreign clans without permission from their chiefs or from the Amenokal (Lhote 1955, p. 279). Kilian also mentions that clan territories are grazing grounds (Kilian 1925, p. 132), and in a study by Malaurie there is a sketch-map of some of the more important territories (Malaurie 1953, p. 339). Nowadays foreign camps are very frequently found in the territory of a clan, and it is said that this might also happen in the past. Possibly the territory of a clan was once reserved as grazing grounds for its members, but clan territories were and are divided into sub-areas the rights to which generally are vested in individual tenants. These sub-areas may be valuable grazing grounds, but most of them have an economic value in other respects also. Some are important hunting grounds for barbary sheep or for the catching of wild donkeys for domestication, others have a value for collecting wild seeds, or they have soil and water suitable for irrigation agriculture. A few areas have all these qualities. I shall briefly mention the sub-areas of the two vassal clans Agouh-en-Tehele and Dag Rali. In the lists (p. 108 f.) are indicated the tenants, the value of their sub-areas, and the annual land-rent paid to the Amenokal, who is the true master of the land inhabited by clans of his drum-group.

For the land-rent *(ehare-n-amerdal)* paid to the Amenokal the tenants obtain the following rights over their sub-areas:–

1) They can forbid grazing within their area or in part of it in order that plants may germinate and become fully developed. For plants valuable exclusively for grazing domestic animals the period of protection will be up to two months, but certain plants which have seeds valuable for collecting are protected for three months.

2) They have the right to half of all wild donkeys caught in their areas.

3) They have the right to part of all barbary sheep killed. Foucauld says that in certain hunting grounds the hide and the meat of a slain animal must be given to the tenant while the hunter can keep only the head, the paunch, and the intestines (Foucauld 1922, p. 81. – Foley 1930, p. 43f.). My own information agrees with Lhote's statement that the tenants in general have the right to the hide, the head, and half the meat (Lhote 1955, p. 284), but for certain hunting grounds there are different rules (cf. list p. 109).

4) The tenants have the right to dues from the crops of every garden, but for sub-areas of the Dag Rali clan they are now given to the Amenokal. In the Agouh-en-Tehele clan the tenants receive 10 kg per garden from a crop of wheat and barley (grown in winter), 10 kg from a crop of millet (grown in summer), and 4 kg from a crop of tomatos.

Should the rights of tenants be violated, the offenders will be fined by the Amenokal, and the indemnity belongs to him and not to the tenant. In the past there was a fixed indemnity of three goats for violation of protected pastures.

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

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Fig. 117. Fishing pool (*afelmam*) in Tasilé-n-Aljer.

136 sunset. There are wild pigeons by the thousand and innumerable flocks of guinea fowls and partridges (*Alectoris* sp.). Two species of turtle-dove are almost as common in Ayr as is the sparrow in Europe.

224 Possibilities of hunting are much more favourable in Ayr than in Northern Tuareg countries, yet, 411 nevertheless, the Ayr Tuareg engage even less in hunting than do the Ahaggar Tuareg. One reason for this is perhaps that very few Ayr Tuareg possess guns. It is extremely rare to meet hunters in Ayr.

224 They are found mainly within one tribe, namely that of *Imedderaren* (or *Kel Tamgak*) living in the 433 Tamgak Mountains of Northern Ayr. I have myself never visited camps of these people, but all Tuareg agree that they live largely as hunters and possess few domestic animals. Unfortunately, these people 119 have never been studied in detail. Buchanan, who met a hunting band of these Tuareg in 1920, says 223 that they have neither goats nor grain, but live by hunting and the collection of wild edible plants (Buchanan 1921, p. 191), while Campbell, who met them at Iferwan in 1926, describes them as hunters who also breed goats and sheep (Campbell 1928, p. 204 f.). Rodd also states that the *Kel Tamgak* have goats and sheep, but that they do not possess camels (Rodd 1926a, p. 307). This is in agreement with information gathered by myself at Iferwan where I met a few Tuareg of this group. There are 224 no Ayr Tuareg who live exclusively by hunting and collecting. The number of game animals killed

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Fig. 123. Digging stick (*ɗaweɣ*) which serves to dig up wild edible roots and other purposes. Ahaggar, the *Dag Ɣali* tribe. Dimension: 0.883 m (total length). (N.M. G. 5252).

Fig. 124. The wild plant *ihahelewen* (sing. *ahahel*) (*Cistanche Phelypaea*) which yields edible roots esteemed for food (bread). Tasilé-n-Ajjer.

Fig. 125. Skin bag of the *téchchékwat* type made from the skin of a kid and containing *adamam* berries (*Osyris alba*). The berries are normally eaten fresh, but are also conserved in skin bags to be eaten later after soaking in water. Ahaggar, the *Dag Ɣali* tribe. Dimension of the skin bag: 0.33 m. (N.M. G. 5244).

Collecting

In this chapter on collecting such edible plants are mentioned as play a part in Tuareg nourishment. Wild plants are also collected for other purposes. Many species are important to craft or have a medicinal value. Some of these latter species are mentioned elsewhere in this study.

EDIBLE PLANTS OF THE AHAGGAR AREA

Wild plants which yield edible fruits, seeds, stems, or roots in Ahaggar comprise more than fifty different species. But the importance of collecting should not be judged from this, as all these plants are never found within the same area, and most are eaten only occasionally as a kind of relish or when agricultural food (wheat, barley, millet, dates) is lacking. I have supplemented my own list of edible plants with important information from Maire's study of Ahaggar botany (Maire 1933 & 1940). In my list the letters Tr., L.M., and U.M. stand for Maire's botanical zones, namely the Tropical Zone, the Lower Mediterranean Zone, and the Upper Mediterranean Zone. The following edible plants are collected in Ahaggar and adjacent regions:—

tirfas (sing. *tarfest*) (*Terfezia ovalispora*). Tr., L.M. A fungus which, according to Maire, lives on the roots of *Helianthemum Lippii* & *H. ellipticum* known to the Tuareg of Ahaggar as *urrug* (Maire 1933, p. 22, 159 et suiv.). This white fungus, which is frequently termed *tirfas n urrug* by the Tuareg, is prepared for eating together with various other dishes. It is frequently added to the so-called kus-kus.

tahlé (*Typha elephantina*) Tr. Roots and certain lower parts of the stem are eaten raw or boiled. When vegetable food is scarce they are also pounded or ground into flour.

akeywod (*Typha australis*) Tr., L.M. Roots of this plant are ground into flour.

téseñgelt (*Saccharum Ravennae*). Tr., L.M. "Cette plante ... laisse très souvent exsuder un liquide sucré qui se concrète en masses plus ou moins cristallisées; les Tuareg utilisent ce sucre" (Maire 1933, p. 54).

afezu (*Panicum turgidum*). Tr. A perennial grass extremely common in the lower valleys of Ahaggar. Seeds are collected in receptacles (e.g., *ahaga*, Fig. 213) by beating the ears of the grass with a stick. The seeds are not suitable for bread, but are esteemed for porridge and *tébik*, that is seeds pounded in the mortar and eaten without further preparation. Ashes of this grass contain soda and are often mixed with tobacco for chewing.

[p. 175]

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aṛemmud (*Aristida plumosa & A. Adscensionis*). Tr. Seeds are edible.

tullult (*Aristida pungens*). Tr. A perennial grass found in certain parts of Ahaggar and particularly common further north (Ahnet, Immidir) and in Tasilé-n-Ajjer. Seeds are collected by men and women in the following manner:— The ears are cut with a sickle and placed in a piece of cotton (e.g., a cotton blanket known as *abroṛ*). The ears are left for drying, and threshing is done by beating with a stick. The husks are winnowed as described for wheat and barley (cf. p. 206), and seeds are then stocked in *aǧera* (a skin-bag). According to Foucauld collecting may also be done by digging out the nests of ants as these small insects stock a great many *tullult* seeds (Foucauld 1922, p. 29 f.). – The *tullult* seeds are used for bread and porridge, and are also eaten as *tébik* after pounding in a wooden [illegible]let mortar.

lewliwen (*Scirpus maritimus*). An annual plant having edible fruit in its roots (cf. Foucauld 1951–52, III, p. 1098).

taleggit (*Juncus maritimus*). Tr., L.M. Young shoots are edible.

izéyan (*Asphodelus tenuifolius*). Tr., L.M. Eaten when vegetable food is scarce.

telokat (*Ficus salicifolia*). Tr. "Les fruits murs, de couleur rouge, sont tendres, un peu sucrés et comestibles" (Maire 1933, p. 76).

adamam (*Osyris alba*). (Tr.), L.M. Its red fruits or berries are eaten as a relish. A bowl of berries is frequently offered to guests of Tuareg camps.

tanesmimt (*Rumex vesicarius & R. roseus*). Tr. Inedible according to Foucauld (Foucauld 1922, p. 85), while Foley states that leaves of this plant are eaten after boiling (Foley 1930, p. 42).

tawit (*Chenopodium Vulvaria*). (Tr.), L.M., U.M. An annual herb which is particularly common in the mountain of Asekrem. The small black seeds are collected in bowls or similar receptacles by rubbing the plants with the fingers. The seeds are ground into flour, which is very suitable for bread and porridge.

aramas (*Atriplex Halimus*). Tr., L.M., U.M. Seeds and boiled leaves of this plant are eaten when vegetable food is very scarce.

ébedébed (*Boerhavia agglutinans & B. repens*). Tr. An annual plant with edible seeds.

éhéyefyef (*Aizoon canariense*). An annual plant resembling the *twuit* plant and particularly common in the upper mountain zone. Seeds are used for bread and *tébik*, but not for porridge.

aǧar (*Maerua crassifolia*). Tr., (L.M.). A tree yielding edible fruit.

tadant (*Boscia senegalensis*). A tree or bush which is extremely rare in Ahaggar where its edible fruit are consequently consumed very rarely.

aggasit (*Farsetia Hamiltonii*). Tr., L.M. A seed-plant.

aheṛeṛa (*Alyssum libycum*). An annual plant which is rare in Ahaggar, while common in Tasilé-n-Ajjer. Eaten after boiling in water.

azezzeǧa (*Diplotaxis acris*). The plant is rare in Ahaggar. Its leaves are boiled and eaten.

tanekfayt (*Eruca sativa*). Tr., L.M. Leaves are eaten raw or boiled.

tamaghé (*Moricandia arvensis*). (Tr.), L.M., U.M. An annual plant – a kind of wild cabbage.

alwat (*Schouwia purpurea*). Tr. An annual plant. "Les Touareg mangent la feuille cuite et essorée, sans sel. La plante jeune donne une salade assez analogue à la Roquette, quoique d'un goût moins agréable" (Maire 1933, p. 111).

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abellengaḍ (*Reseda villosa*). Tr., L.M., U.M. Seeds of this plant are edible, but of bad taste – according to Foucauld 1951–52, I, p. 65.

abseṛ (*Acacia Raddiana*). Tr., (L.M.). Fruits are collected mainly for goat fodder, but are eaten by human beings when vegetable food is scarce. The fruit is then crushed into flour. The resin of this acacia is also edible.

tamat (*Acacia seyal*). Tr. The resin (*taynwst*) is edible. I believe it is used mainly as a remedy against stomachache. This is perhaps also true of the resin of the *abseṛ*-acacia mentioned above.

ahtes (*Acacia albida*). Tr., L.M. "La gousse est même comestible pour l'homme" (Maire 1933, p. 120).

ténefé (*Tephrosia leptostachya*). Tr. "Les Touareg mélangent cette plante desséchée au thé vert" (Maire 1933, p. 125).

laġul (*Alhagi maurorum*). Unknown in Ahaggar, but found in Tasilé-n-Ajjer. "Les racines tuberisées sont mangées par les indigènes (Killian)" (Maire 1933, p. 131).

alora (*Peganum Harmala*). Tr., L.M., U.M. An annual seed-plant. Seeds are used for *tébik*.

taburaḳ (*Balanites aegyptiaca*). Tr., L.M. A tree having edible fruits which are macerated in water to remove the bitter taste.

tedjoq (spelling according to Maire 1933, p. 241) (*Pistacia atlantica*). L.M. Very rare according to Maire (1933, p. 148). According to my own observations the fruit of this tree is eaten by Arab pastoralists (e.g., *Ulad Nail*) of the so-called *daya* region south of the Sahara Atlas. It is possible that it is also eaten by the Tuareg.

tahunek (*Rhus oxyacantha*). Tr., L.M. A tree having edible fruit.

téhaḳ (*Salvadora persica*). Tr. A tree with edible fruit.

tabakat (*Ziziphus lotus* var. *Saharae*). Tr. The berries are crushed and mixed with millet flour.

ăzawa (*Tamarix gallica*). Tr., L.M. "La manne produits par ces arbres est receuillié par les indigènes qui l'emploient comme matière sucrante. (Voinot)" (Maire 1933, p. 156).

tabarekkat (*Tamarix aphylla*). Tr. "Les rameaux mannifères sont employés pour sucrer l'eau" (Maire 1933, p. 159).

tafeltast (*Myrtus Nivellii*). (Tr.), L.M. "Les rameaux de ce Myrte sont récoltés par les Touareg, desséchés et exportés par sac entiers au Soudan et au Mzab, avec *l'Artemisia judaica* ssp. *sahariensis*. Ces deux plantes sont utilisées comme médicaments et comme condiments" (Maire 1933, p. 162).

awkal (*Cynomorium coccineum*). Tr., L.M. A plant yielding edible roots which are dried and ground into flour (cf. Maire 1933, p. 163).

aséyar (*Anethum graveolens*). (Tr.), L.M., U.M. An annual plant. Its seeds are used as a spice and for adding to tea.

takmezzut (*Teucrium Polium*). Tr., L.M. An annual plant used for adding to tea.

élel (*Nerium Oleander*). Tr., L.M. This plant is extremely venomous particularly so for camels, which die from eating its leaves. "La cendre de bois de *Nerium* est employée par les femmes du Tidikelt pour se faire engraisser. A cet effet elles mélangent un peu de cette cendre avec des dattes pilées et du beurre, puis absorbent ce mélange dans du leben" (Maire 1933, p. 170).

ărellachchem (*Solenostemma oleifoleum*). Tr. A perennial plant. Its leaves are used as a substitute for tea.

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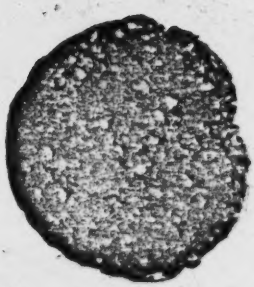

Fig. 126. A cheese-like mass of *adamam* berries (*Osyris alba*). The fresh berries are pounded in the large mortar (*tindé*) or are crushed between two stones to be formed into pieces of cheese form to be dried. This cheese-like mass of *adamam* berries is used by Tuareg women as a kind of face ointment against sun burn, pimples, and the like. They apply this ointment to the face as follows:— A little milk is poured upon a stone, the cheese-like mass of berries is rubbed against it, and the mixture of milk and berries is thereupon rubbed into the skin of the face with the fingers. Ahaggar, the *Dag Rali* tribe. Dimension: 0.075 m. (N.M. G. 5279a).

enag (*Leptadenia pyrotechnica*). Tr. A tree with edible fruit.

tañhart (*Mentha longifolia*). Tr., L.M. An annual plant. Used as an aromatic for adding to tea.

awit, generally known by the collective name *awihat* (*Salvia Chudaei*). Tr., (L.M.). An annual plant used as an aromatic for tea.

éfelehleh (*Hyoscyamus muticus* ssp. *falezlez*). Tr. This plant is extremely venomous for human beings, though not for animals. In the past it was used by the Tuareg as a poison for enemies. Members of La Mission Flatters (1880–81) were poisoned by the Tuareg using poison of this plant inserted into dates presented to the expedition. "La plante, absorbée à petite dose, aurait la propriété de faire engraisser. Les femmes du Tidikelt l'emploient dans ce but, en en faisant cuire une petite quantité dans de l'eau avec de la farine et de la graisse; elles laissent réduire et absorbent la bouillie obtenue, puis se couvrent pour transpirer (Voinot)" (Maire 1933, p. 192).

ahahel (*Cistanche Phelypaea*). Tr., L.M. A plant yielding edible roots. After drying the roots are pounded in a large millet mortar to be used for bread which is much esteemed by the Tuareg. "Cette plante est recoltée jeune par les indigènes, puis placée dans le sable sous une couche de *drinn* (*Aristida pungens*) jusqu'à noircissement et dessication. Le produit sec est moulu et utilisé dans l'alimentation (Voinot)" (Maire 1933, p. 196).

éfetekchi (*Orobanche aegyptiaca* & *O. cernua*). Tr., L.M. A plant yielding edible roots.

tamzellit (*Orobanche sp.*). Tr. Very rare. A plant yielding edible roots.

tegellet (*Colocynthis vulgaris*). Tr. Seeds are eaten after boiling and drying.

alkeḍ (*Cucumis pustulatus*). Tr. Rare. Seeds are eaten after boiling and drying.

takkilt (*Cotula cinerea*). Tr. "Les Touareg utilisent cette plante comme condiment, principalement pour la viande qui commence à se gâter" (Maire 1933, p. 209).

téhereggelé (*Artemisia judaica* ssp. *sahariensis*). Tr., (L.M.). "Cette plante, comme le *Myrtus Nivellei*, est récoltée en grande quantité, séchée et exportée au Soudan, où elle est employée comme aromate et condiment" (Maire 1933, p. 212).

zézzeré (*Artemisia herba alba*). (Tr.), L.M. Used as an aromatic for adding to tea.

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

ajako. According to Foucauld a small annual edible plant growing in the Ahaggar Mountains at an altitude above 2000 metres (Foucauld 1951–52, II, p. 712). Maire mentions this plant as unindentified (Maire 1933, p. 263).

Collecting is mainly the task of women, but males – particularly uninitiated boys and slaves – also participate. Seed-plants are generally harvested by rubbing the ears of the plants between the fingers, but the *tullult* grass (*Aristida pungens*) is cut with a sickle (*amreh*; Fig. 143 a–b) to be thrashed and winnowed like wheat and barley. Edible roots are frequently collected merely by hand. However, a digging stick (*élaweg*; Fig. 123) provided with an iron point is also used to dig up certain wild plants such as *ahahel* (*Cistanche Phelypaea*) and similar root plants. This digging stick is characteristic of vassal women who use it for many different purposes, e.g., to make holes for tent poles.

The very best among the above mentioned seed-plants is the *tullult* grass (*Aristida pungens*). Its seeds are collected or harvested by certain Tuareg inhabiting the lower parts of Ahaggar, but are important particularly to the Tuareg living in and around Tasilé-n-Ajjer. Within the Ahaggar Massif the most important seeds are those of *afezu* (*Panicum turgidum*) and *tawit* (*Chenopodium Vulvaria*). The right to collect these seeds is free to everybody, and Tuareg of the *Abada* zone may send their slaves to the *Atakor* zone to collect *tawit*-seeds in the mountain plateau of Asekrem. The species of *afezu* and *tawit* are sometimes protected by an ban on grazing for three and two months respectively in order that their seeds may grow ripe for collecting. The right to put a ban on grazing of the two species belongs to the Tuareg in whom territorial rights of a sub-area are vested (cf. p. 150). It is said that under very favourable conditions a single household may collect some hundred kilos of seeds of the two plants mentioned. This may seem rather impressive, but even in good years when milk is abundant collecting will not provide pastoral Tuareg of Ahaggar with sufficient vegetable food, for seeds of wild plants are far less nourishing than are grains of wheat, barley, and millet. The collecting of wild plants important for food is as dependent on climatic conditions as is stock-breeding. In dry years, when domestic animals yield little or no milk at all, there will also be no wild seeds for collecting.

Fig. 127. Very small bag known as *élem* ("skin") made from a kid's scrotum (*tigassait*). The bag contains a piece of resin of the *tamat* acacia (*Acacia seyal*). This resin is eaten by the Tuareg as a remedy against stomachache. Ahaggar, the *Ajjeh-en-tehlé* tribe. Dimension of the piece of resin: 0.07 m long. (F.M. 149a–b).

222 Even in good years it may happen that edible seed-plants are eaten by locusts before they become
134 ripe for collecting. Collecting is of secondary importance to the Tuareg of Ahaggar though to most
433 pastoralists it is more important than hunting.

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134 We have seen that Ayr has better grazing grounds and more game than Ahaggar, and it is only
137 natural that this southern area is also a more favourable one for the collecting of wild plants. Never-
222 theless, it seems as if collecting is not so important to the Ayr Tuareg who have more livestock for
433 which millet and wheat can be obtained without much difficulty. The number of edible plants utilized in Ayr is probably a very large one. Thus it is said that certain *Kel Ewey* Tuareg collect many different plants, but my inquiries into the methods and the value of collecting were limited to Tuareg of the *Kel Ferwan* drum-group of Southern Ayr where the following species are collected for food: —

222 *afagag* (*Acacia Raddiana*). Pods of this acacia are dried and, after pounding in a large millet mortar,
262 mixed with milk to be eaten or drunk like the Tuareg dish known as *agejira* (cf. p. 245 f.).

252 *ebezgin* (*Salvadora persica*). Fruit is eaten without any preparation.

tadent (*Boscia senegalensis*). Berries are pounded in the millet mortar to obtain the limpid juice which is added to porridge.

824 *tagayt* (*Hyphaene thebaica*). The dum palm, which is of extreme importance for the handicraft of the Ayr Tuareg, is also valuable as food. The young nuts are opened with a knife and the kernels are eaten. The old nuts have an edible outer coating which is eaten by children and even by adults when they are hungry. These old nuts are also pounded in the millet mortar together with seeds of *agerruf*, cf. below.

afezu (*Panicum turgidum*). This perennial grass is very abundant all over Ayr. Collecting of its seeds is done by rubbing the ears of the grass between the hands to allow the seeds to fall into a plaited bowl. Seeds are pounded in a millet mortar to be used for porridge.

ichiben, that is seeds of an annual grass – apparently identical with *Panicum longiflorum* and/or *P. spinosa*. The seeds are collected in two different ways: — (1) If the ripe seeds have fallen to the ground they are swept together with a bunch of straw. (2) The ears are cut with a knife to be threshed by pounding in a millet mortar. The seeds are highly esteemed, being collected to a greater extent than seeds of other wild plants. The seeds are used particularly for porridge, but also for certain other dishes such as *agejira* (cf. p. 245 f.).

tijit (*Eragrostis* ssp.). A grass yielding red seeds collected in the following way: — The ears are beaten with the hands so that the seeds fall into a plaited bowl. The seeds are used only for porridge.

wajeg (*Cenchrus catharticus* & *C. Pricuri*). Annual seed-plants with thorny seeds. The dry plants are beaten with a stick and the fallen seeds are collected in a heap to be threshed with a stick. The seeds are pounded in a millet mortar for porridge.

agerruf (*Tribulus terrester*). An annual plant with thorny seeds which are collected as just described for the *wajeg* plants. The seeds are pounded in a millet mortar to be eaten without further preparation.

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a dish known to the Ayr Tuareg as *tiderka*. For this purpose the pounded seeds may also be mixed with pounded dum palm nuts.

acheyor (*Sorghum virgatum*). A tall grass the seeds of which are swept together when fallen to the ground. They are used for porridge.

aguzagi. Edible seeds of a grass. They are swept together when they have fallen to the ground, and are used for porridge.

agrshgrelu. Seeds of an annual plant. When they have fallen to the ground they are swept together by means of a straw bundle. They are pounded in a millet mortar to be eaten as *tiderka* without any further preparation.

mahokhiyu (*Corchorus tridens*). A plant growing in the bush though also grown in gardens. The leaves of this plant are dried and thereupon pounded in a millet mortar to be used as an admixture to porridge-sauce.

aherzey (*Cassia tora*). Leaves of this plant are plucked with the hand, or, if the plant is dry, shaken into a plaited bowl. They are pounded and used as an admixture to porridge-sauce.

kal'aket'i (*Cistanche* sp.). It is said to be known as *achellewen* among Tuareg of the *Kel Ewey* group. The edible roots of this plant are dug out with a stick. They are pounded and boiled for a kind of porridge.

acherku (*Ghaznavena Borreanum*). An annual plant with small lacteal fruit which is eaten as a relish without any preparation.

These are the plant species collected by the *Kel Fernan* of Southern Ayr. It may happen that some of these plants are destroyed by locusts, but in most years there are excellent possibilities of collecting wild seeds. Most plants are collected late in summer after the rains (at the season of *tarat*), or in winter (*tigrest*). It is said that in good years more than a thousand kilos of wild seeds can be collected by the members of a single household, but even this amount of wild seeds does not answer the need for vegetable products. Collecting is of secondary importance to the *Kel Fernan* Tuareg. Very few of the plant species mentioned are collected if there is abundant millet. The main exceptions are the plants used for sauce-admixture, and the *ichiben* seeds. The latter are collected even by Tuareg who have enough millet, because porridge made from these seeds is considered a very delicious dish.

The two groups of Northern Tuareg and also the Tuareg of Ayr acquire their vegetable food products mainly from agriculture, which occupation will now briefly be described.

[text continues on p. 183]

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tions have remained important to the Ahaggar Tuareg, and it is clear that they would not go on trading were these expeditions not profitable, for trading expeditions are extremely strenuous. Though the expeditions set off when the extreme heat is decreasing, it is still very hot in the extensive barren plains in autumn and in winter during daytime. Water and pasture are often extremely scarce in this deserted country, and the Tuareg frequently have to travel rapidly. For days or weeks they live so to say on their camels, and if camels are not too heavily loaded they may do up to 16 hours a day for several days in succession. Under such journeys the Tuareg eat only once a day. Obviously such trading expeditions are also very hard on the pack-camels, and there is always a risk of loosing a camel during such journeys through barren, desert country.

In this brief outline of caravan trading I have not considered those Ahaggar Tuareg living constantly in the Tamesna plains and adjacent regions. These Tuareg own more livestock than the Tuareg of the Ahaggar Massif, and I do not believe that they engage so much in extensive trading expeditions. They are comparatively rich in she-camels which are tolerably good milk yielders in these regions most of the year, and milk is more important as food than it is in Ahaggar. I believe that most Ahaggar Tuareg of the Tamesna region acquire their necessary vegetable products by selling surplus livestock, butter and cheese at the markets of Ingal and Agadez.

CARAVAN TRADING OF THE AYR TUAREG

Among the Ayr Tuareg stock-breeding products are far more important for food than in the north. Grazing conditions are better with annual pasture as a recurrent event, and the Tuareg keep bigger flocks of goats and sheep, larger camel herds, and most have a few zebus which are guarded without much difficulty. The *Kel Ferwan* Tuareg of Southern Ayr can live on milk for a large part of the year, though they, like those of Ahaggar, become tired of milk drinking if they get no solid food. There are Tuareg of Southern Ayr who live exclusively on milk for two or three months during the periods of *akasa* and *rarat* and to whom milk is important as food for at least six months. In the extremely hot season of *ewilen* when milk is very scarce most Tuareg eat millet porridge with a little milk or sauce (cf. p. 242 f.), and Tuareg who are not very wealthy eat millet porridge to a great extent all the year round, so that the necessary amount of millet for many camps is about 0.5 kilo a day per person, or about 180 kilos a year. In Ayr there are fairly good possibilities of collecting if there are not too many locusts, but most Tuareg do not collect a great quantity of wild seeds, and claim that they would be very badly off without millet, as seeds of wild plants are not very nourishing in comparison. In one year during the second world war (in 1943) they say that millet was very hard to get; it was then very difficult to subsist and a great many animals had to be killed for food. Millet is almost indispensable to the Tuareg; they also consume other vegetables derived from agriculture, notably wheat, maize, and dates, but millet is the most essential non-nomadic food product. Normally it can be acquired by most Ayr Tuareg without much difficulty.

The people of Ayr obtain their provisions of millet from the Sudanese area of shifting cultivation, notably from Damergu (Tanut). Millet can also be bought at Agadez whereto it is brought by Tuareg

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caravans of the south or by Ayr Tuareg who import more millet than they need for their own use. But millet is cheaper in Damergu than at the Agadez market, and most Tuareg prefer to organize their own millet caravans with camels and donkeys as pack-animals. In Damergu most Ayr Tuareg get millet in exchange for livestock or they buy it for money. Their caravans are not always very large, for the Southern Ayr Tuareg of the *Kel Ferwan* group do not organize their caravans co-operatively on the basis of kinship. Many individual households fetch their own millet with a few animals, and it is comparatively easy to do so as the millet growing country of Damergu is not very far away – the distance from Agadez to Tanut is only about 300 kilometres. The Ayr Tuareg do not have to engage in extensive trading expeditions to procure millet, and can buy millet very cheaply. A household, it is said, does not have to sell a great many animals to secure the necessary supply of millet. Three or four camel loads will cover the needs of most households, and this amount of millet can be acquired for comparatively few animals – particularly if the animals vended are sheep, which have become very expensive in recent times owing to the rapid increase of Europeans at Agadez. An extremely good sheep or ram for slaughtering can bring in 2000 to 3000 West African francs, and a Tuareg household which buys millet in Damergu will need less than 10,000 francs to acquire the quantity necessary for a year. Thus the Ayr Tuareg can obtain their millet for a few sheep, and there are very few, if any, who do not posses this surplus, and it should be repeated that the increment of livestock is never stopped by drought periods as in the north. The extremely high price for sheep for butchering is a recent phenomena due to the increase of the French population. Fully-grown sheep or rams are expensive, and this is also the case with fowls, while goats are cheap. I believe we can estimate that a household would have to sell about 15 goats anually to obtain the amount of millet necessary for one year's consumption. However, there is little doubt that it has always been quite easy for the Tuareg of Southern Ayr to obtain the requisite amount of millet in exchange for livestock.

Millet and milk constitute the basic nourishment of the Ayr Tuareg, but they are very fond of an occasional change of food. And I believe that this is one important reason why the Ayr Tuareg, like those of Ahaggar, collect wild seeds even in years when grown cereals are abundant. For a change, the Ayr Tuareg are also extremely fond of dates which are not grown to any great extent in their own country. A few Ayr Tuareg own palms yielding dates of poor quality, and I think that a few households also obtain some dates from Ingal. However, most dates eaten in Ayr are imported from the oasis of Bilma, situated in the very barren desert country between Ayr and Tibesti, about 700 kilometres north-east of Agadez.

The trade with Bilma is apparently an ancient one, and its foundation is salt which is of a very bad quality compared with that mined at Amadror in the north. The rock-salt of Amadror is excellent for food, and though there is one good quality of Bilma salt that is used for food by the Tuareg of Ayr, most salt from Bilma contains much soil and other impurities. This impure salt is excellent for domestic animals which, in Ayr and further south where salt pastures do not exist, need a lot of salt. The Ayr Tuareg, and particularly those who do not visit the country of Azaouaq at the end of the rains, need salt not only for their own food but also for their domestic animals. They obtain this from Bilma, which is visited by caravans in autumn or in the early winter. The inhabitants of Bilma, like other oases-dwellers, are in constant need of cereals and meat, and these products are imported